

DESCRIPTIONS OF THREE NEW NEOTROPICAL SPECIES OF *CHRYSOPS* (DIPTERA, TABANIDÆ)¹

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Chrysops zayasi, new species (Figs. 1-3)

Female.—Medium-sized, of the group of *C. incisa* Macquart and closely related to *C. frazari* Williston.

Frons about as wide as high, mostly grey pollinose; ocellar area moderately raised, extensive, denuded shiny black and narrowly connected medially with a shiny black upper margin of the callus; frontal callus low, yellowish-brown, separated from the eyes by narrow pollinose orbits. Fronto-clypeus shiny honey-yellow, except for the grey pollinose narrow inner orbits and upper half of cheeks; facial pits yellow; upper lateral areas (above the pits) moderately swollen, not conical. Antennae entirely black, sparsely black-haired, slender, slightly longer than fore femora; segment 1 about one and one-third times the length of 2; 3 slightly longer than 1 + 2; 1 and 2 cylindrical, scarcely swollen, but 1 slightly thicker than 2, particularly seen from above. Palpi honey-yellow. Thorax black; mesonotum with four greyish pollinose longitudinal stripes: one on each side, above the base of the wing, very wide, continuous; a median pair narrow, broadly interrupted before the scutellum, connected anteriorly with the lateral stripes. Scutellum mostly shiny brownish-yellow. Pleura with two broad, yellowish-grey pollinose longitudinal stripes, the upper one interrupted medially. Legs mostly pale yellowish-brown; trochanters, tips of femora and of tibiae, and tarsi more or less infuscated to black; coxae partly grey pollinose; tibiae not widened. Wings hyaline, with dark markings similar to those of *C. incisa*: apical spot well defined as a narrow, continuous stripe along costa, ending at apex of wing and filling in the entire marginal cell; cross-

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band covering entire 4th posterior (which is narrower at apex than usual) and basal third of 5th posterior cell, continued to the margin along the upper side of the anal cell (which is closed at the apex); no hyaline spot in first submarginal cell in holotype and one paratype (the other paratype has small, drop-line hyaline spots in the distal extension of the cross-band in the first submarginal cell, in the discal cell, and in the apical spot at the tip of the first submarginal cell; this is no doubt an abnormal condition; in every other respect the specimen agrees with the holotype); cross-band abruptly extended in the first submarginal cell, but ending far from the fork of the third vein; basal cells hyaline except for extreme bases and apices. Halteres yellowish-brown, the knobs infuscated above. Abdomen black, with a dorsal pattern of yellowish, grey pollinose markings similar to that of *C. frazari*, but the sides of 1st tergite extensively yellowish; median mark of tergite 2 either hour-glass-shaped or divided into two triangles; ventrally two broad, yellowish, grey pollinose stripes, fused anteriorly to cover most of sternites 1 and 2.

Length (not including antennae), 7 to 7.5 mm.; of wing, 8 mm.

CUBA: Cienaga de Lanier, Isle of Pines, March 28, 1945 (Fernando de Zayas Collector); holotype and 1 paratype at M.C.Z. (No. 27434); 1 paratype deposited at the United States National Museum.

C. zayasi is very closely related to *C. frazari* of Hispaniola, a species as yet imperfectly known (see J. Bequaert, 1940, Rev. de Entomologia, XI, p. 282, fig. 1). At present it may be separated by the different shape and color of the antenna (in *frazari* segment 1 and 2 are more swollen and reddish-brown) and by the color of the frontal callus (black in *frazari*).

This interesting addition to the scant tabanid fauna of Cuba was received from Dr. S. C. Bruner, who kindly presented the holotype and one of the paratypes to the Museum of Comparative Zoology.

Chrysops renjifo, new species (Figs. 4-6)

Female.—Small, related to *C. latitibialis* Kröber and the species described below as *C. weberi*.

Frons very slightly higher than wide (appearing as wide as high in exact front view, as drawn in Fig. 5), mostly grey pol-

linose; ocellar area very little raised, denuded, shiny black, not extended downward; frontal callus low, black, transverse, with nearly straight sides which are separated from the eyes by narrow pollinose orbits. Fronto-clypeus shiny honey-yellow, with infuscated blotches; upper half of cheeks, very narrow inner orbits and entire outer orbits grey pollinose; facial pits yellow; upper lateral areas (above the pits) flattened convex, not conical. Antennae dirty-yellowish on segment 1, fuscous-brown to blackish on 2 and 3, very slender, much longer than fore femora; segment 1 about one and one-third times the length of 2; 3 scarcely longer than 1, its basal portion very little swollen; 1 and 2 cylindrical, not swollen, equally thick both from above and in profile. Palpi yellowish-brown. Thorax black, fairly shiny, lightly covered with grey pollinosity, which forms two narrow, continuous median lines on the dorsum and is more pronounced on the pleura and on the sides of the dorsum between the wings and the shoulders; no pleural stripes nor spots; scutellum shiny black. Legs mostly infuscated to black; much of fore femora, extreme tips of mid and hind femora, and entire hind tarsi dirty yellowish-white; all tibiae flattened convex, moderately widened. Wings fairly cloudy over most of the clearer areas, decidedly hyaline only in the two basal and the anal cells; darker markings as follows: costal and subcostal cells, very narrowly connected with the apical spot, which is poorly defined but fills in most of the apex of the wing; it is darkest close to the costa and fades gradually toward the 3d posterior cell; a very narrow, nearly hyaline streak divides it from the distal margin of the crossband, beginning well inside the marginal cell a short distance from the costa; cross-band with nearly straight distal edge, far from the fork of the third vein, divided at the hind margin by an ill-defined, semi-hyaline spot covering much of the 5th and the median portion of the 4th posterior cells; center of discal cell also somewhat paler; base of wing, extreme tips and bases of both basal cells and narrow upper margin of anal cell infuscated; stigma well defined, blackish-brown; anal cell broadly open at apex. Halteres black. Abdomen: 1st tergite yellowish-white, with a narrow black apical margin; 2d tergite yellowish-white over a little more than anterior half, the black hind portion extending forward along the sides; 1st and 2d sternites mostly pale yellowish; remainder of abdomen shiny black, without markings;

yellow of 1st and 2nd tergites slightly grey pollinose, the 1st on each side with a prominent yellowish pollinose spot; all tergites with a few, scattered, short white hairs.

Length (not including antennæ), 5 mm.; of wing, 5.8 to 6 mm.

COLOMBIA: Veneral, Rio Yurumanguí, Dept. Valle del Cauca, March 25, 1943 (Santiago Renjifo Salcedo Collector); holotype and 1 paratype at M.C.Z. (No. 27435).

Chrysops weberi, new species (Figs. 7-8)

Female. — Small, related to *C. latitibialis* Kröber and *C. renjifo*.

Frons about as wide as high, mostly yellow pollinose and with a few erect black hairs; ocellar area very little raised, extensively denuded, but not extended downward, shiny black with yellowish-brown occipital edge; frontal callus large, strongly swollen, yellowish-brown, barely separated from the eyes. Fronto-clypeus shiny honey-yellow, except for the grey pollinose narrow inner orbits and upper half of cheeks; facial pits yellow; upper lateral areas (above the pits) flattened convex, not conical. Antennæ yellowish-brown, paler on segment 1; terminal annuli of segment 3 somewhat more infuscated; very slender, much longer than fore femora; segment 1 scarcely longer than 2; 3 about one and one-half times the length of 1, its basal portion very little swollen, but decidedly thicker than 1; 1 and 2 cylindrical, not swollen, about equally thick both from above and in profile. Palpi yellowish-brown. Thorax black; dorsum with a median pair of broad, continuous, yellow pollinose spots between scutellum and wing and on antealar callosity. Scutellum black, broadly dirty-yellowish along hind and lateral margins. Pleura with a number of disconnected yellow pollinose spots, not definitely forming stripes. Legs: coxae and tibiae strongly infuscated to blackish; femora and tarsi dirty-yellowish to brownish-yellow, the hind tarsi paler; all tibiae flattened and moderately widened. Wings marked almost exactly as in *C. renjifo*, the differences being too slight to justify a figure; the clearer, subhyaline spot near the hind margin of the cross-band is restricted to the middle of the 5th posterior cell; anal cell mostly hyaline. Halteres yellowish-brown. Abdomen: 1st tergite yellowish with a black apical margin; 2d

narrowly yellowish at base, but more broadly at the sides; remainder of tergites shiny black, with three longitudinal yellowish stripes, the median one broadest on the 2d tergite where it is connected with the yellow base; the lateral ones less distinct, more or less broken up and extending only over tergites 3 to 6; sternites mostly honey-yellow to fuscous.

Length (not including antennae), 6 mm.; of wing, 6.5 mm.

BRITISH GUIANA: Oronoque River, in latitude $2^{\circ}42'N.$, July 31, 1936, a tributary of the New River in the Courantyne River drainage (N. A. Weber Collector); holotype at M.C.Z. (No. 27436). — COLOMBIA: Mitú, Terr. Vaupés, August, 1943 (P. Allen Collector); paratype at M.C.Z. (No. 27436a), somewhat mutilated (lacking antennal segment 3), but agreeing in every respect with the holotype.

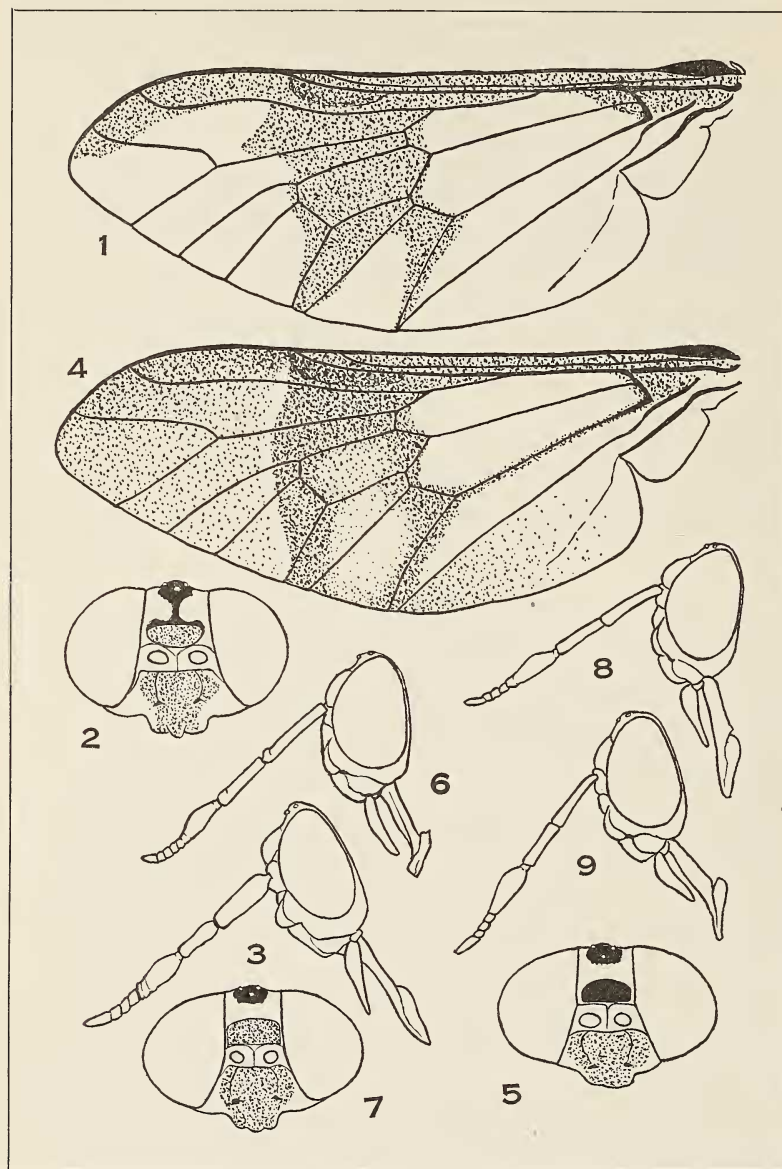
The foregoing two species have most of the structural characters (particularly the widened tibiae) and the wing pattern of *C. latitibialis* Kröber. These three species may be separated by the subjoined key. I have compared the holotype and only known specimen of *latitibialis*, from Kamakusa, British Guiana (M.C.Z. No. 27437).

1. Third antennal segment relatively short, scarcely longer than first, its basal portion very slightly widened. Frontal callus black. Mesopleura without spots. Hind femora mostly black. First abdominal tergite pale yellow with a narrow black apical margin; second tergite pale yellow over basal and black over apical half; remaining tergites black, without markings. *C. renjifo*.
Third antennal segment markedly longer than first. Frontal callus partly yellowish-brown. Mesopleura with pale pollinose spots. Hind femora mostly yellowish-brown. 2.
2. Third antennal segment about as long as combined first and second, its basal portion markedly swollen (Fig. 9). First and second abdominal tergites each with a narrow yellowish base, the yellow of the second somewhat extended backward in the middle; remaining tergites black, without markings. *C. latitibialis*.
Third antennal segment much shorter than combined first and second, its basal portion scarcely swollen. First abdominal tergite pale yellowish with black apical margin; second tergite pale yellowish at base and on sides; re-

mainder of tergites* black with three yellowish stripes, the median one connected with the base of tergite 2, the lateral ones only on tergites 3 to 6. *C. weberi*.

EXPLANATION OF PLATE I.

Figs. 1-3, *Chrysops zayasi* J. Bequaert, female: 1, wing; 2, head in front view; 3, head in profile. — Figs. 4-6, *Chrysops renjioi* J. Bequaert, female: 4, wing; 5, head in front view; 6, head in profile. — Figs. 7-8, *Chrysops weberi* J. Bequaert, female: 7, head in front view; 8, head in profile. — Fig. 9, *Chrysops latitibialis* Kröber, female, holotype, head in profile.



Bequaert — Chrysops